
Weekly Report / MEI Honghui

5.15-6.4

ChinaVis Survey

See chinavis_survey.pdf

ChinaVis Review

paper2317

score : 8

This paper deals with a virtual globe-based geoinformatics system, which aims at the integration of aboveground and underground entities together with the terrain. The ideas are clear and are proposed in a concise way with the well designed figures. Research and work on the techniques used in rendering geoinformatics informations, including integration of data formats and data models, fusion strategy and clipping method, and software architecture of prototype system, are clearly introduced with analysis and discussion of final results.

However, the challenges and contribution of this paper should be discussed more clearly in an organized way. Moreover, the related works are better separated from Introduction and enriched by more techniques involved, for example, the existing cutting strategies.

Some more minor corrections:

- The color of citations and references should also be black.
- Indexes of sub-figures in each figure can be put at positions that are more conspicuous and unambiguous. As a recommendation, put them at the bottom center of corresponding sub-figures. Moreover, some of the sub-figures with indexes have not been described in the captions (e.g. Fig. 6).
- In Fig. 7, control points are not colored correctly.

Some grammar mistakes and typos:

- First sentence of abstract: which clause is incorrectly referred. Split the long sentence into two short ones.

-
- In abstract, "Finally, we developed a visual globe-based prototype system ...": "visual" -> "virtual".
 - In first paragraph of Introduction, "For the spatial information visualization, Virtual globes are ...": "Virtual" -> "virtual".
 - In first paragraph of Section 2.2, "... and the different data models also can be used to produce the same type of entities.": "also can" -> "can also".
 - In first paragraph of Section 4, "Through analyzing the above results ...": "above results" -> "results above".

Paper Read

Paper reviewed for survey:

- [1] W. J. Schroeder, K. M. Martin, and W. E. Lorensen, "The design and implementation of an object-oriented toolkit for 3D graphics and visualization," Proc. Seventh Annu. IEEE Vis. '96, vol. 1, p. 93–100, 1996.
- [2] J. Browne, B. Lee, S. Carpendale, N. Riche, and T. Sherwood, "Data analysis on interactive whiteboards through sketch-based interaction," Proc. ACM Int. Conf. Interact. Tabletops Surfaces - ITS '11, p. 154, 2011.
- [3] M. Savva, N. Kong, A. Chhajta, L. Fei-Fei, M. Agrawala, and J. Heer, "ReVision: Automated Classification, Analysis and Redesign of Chart Images," Proc. 24th Annu. ACM Symp. User interface Softw. Technol. (UIST '11), pp. 393–402, 2011.
- [4] B. Zhu, H. Zhang, W. Chen, F. Xia, and R. Maciejewski, "ShotVis," ACM Trans. Multimed. Comput. Commun. Appl., vol. 12, no. 1s, pp. 1–17, 2015.
- [5] W. O. Chao, "NapkinVis : Rapid Pen-Centric Authoring of Improvisational Visualizations."
- [6] R. Number, "NoPumpG : Creating Interactive Graphics With Spreadsheet Machinery University of Colorado at Boulder , Department of Computer."
- [7] S. Ortiz, "Use Cases of Impure, an Information Interface," VisWeek 2010 Discov. Exhib., pp. 2–4, 2010.
- [8] J. Cottam and A. Lumsdaine, "Stencil: A conceptual model for representation and interaction," Proc. Int. Conf. Inf. Vis., pp. 51–56, 2008.
- [9] H. Wickham, "A Layered Grammar of Graphics," J. Comput. Graph. Stat., vol. 19, no. 1, pp. 3–28, 2010.
- [10] J. Walny, S. Huron, and S. Carpendale, "An Exploratory Study of Data Sketching for Visual Representation," Comput. Graph. Forum, vol. 34, no. 3, pp. 231–240, 2015.
- [11] "Vis-a-vis_A_Visual_Language_for_Spreadsh." .
- [12] C. Reas and B. Fry, "Processing. org: a networked context for learning computer

programming," ACM SIGGRAPH 2005 Web Progr., 2005.

[13] R. Stewart and M. C. Schraefel, "Graph Sketcher: Extending Illustration to Quantitative Graphs," pp. 4–7, 2009.

[14] J. Heer and M. Agrawala, "Software Design Patterns for Information Visualization," vol. 12, no. 5, pp. 853–860, 2006.

[15] D. Gotz et al., "HARVEST: An Intelligent Visual Analytic Tool for the Masses," Proc. first Int. Work. Intell. Vis. interfaces text Anal., pp. 1–4, 2010.

[16] S. F. Roth, J. Kolojechick, J. Mattis, and J. Goldstein, "Interactive graphic design using automatic presentation knowledge," Proc. SIGCHI Conf. Hum. factors Comput. Syst. Celebr. Interdepend. - CHI '94, no. April, pp. 112–117, 1994.

[17] J. Heer, F. Van Ham, S. Carpendale, C. Weaver, and P. Isenberg, "Creation and collaboration: Engaging new audiences for information visualization," Lect. Notes Comput. Sci. (including Subser. Lect. Notes Artif. Intell. Lect. Notes Bioinformatics), vol. 4950 LNCS, pp. 92–133, 2008.

[18] K. Moreland, "A survey of visualization pipelines," IEEE Trans. Vis. Comput. Graph., vol. 19, no. 3, pp. 367–378, 2013.

[19] F. B. Viegas, M. Wattenberg, F. Van Ham, J. Kriss, and M. McKeon, "Many Eyes: A site for visualization at internet scale," IEEE Trans. Vis. Comput. Graph., vol. 13, no. 6, pp. 1121–1128, 2007.

[20] C. Weaver, "Building Highly-Coordinated Visualizations in Improvise," IEEE Symp. Inf. Vis., pp. 159–166, 2004.

[21] Z. Liu and J. Stasko, "Mental models, visual reasoning and interaction in information visualization: A top-down perspective," IEEE Trans. Vis. Comput. Graph., vol. 16, no. 6, pp. 999–1008, 2010.

Others

[22] A. Dasgupta, M. Chen, and R. Kosara, "Conceptualizing Visual Uncertainty in Parallel Coordinates," Comput. Graph. Forum, vol. 31, no. 3pt2, pp. 1015–1024, 2012.

Talk about the uncertainty of visual representation in parallel coordinates.

TODO Next Week

- 专著
- 出境申请
- Think: Visualization Recommendation with DL